

CLAIMS

What is claimed is:

1. A communications method comprising: using an amplifier (121), performing amplification of a small number of transmit tones(501), the amplification producing unwanted intermodulation distortion products; measuring the intermodulation distortion products to obtain an intermodulation distortion product measurement (503); and determining (507) whether amplifier linearity is within an acceptable range based on the intermodulation distortion product measurement and a desired data rate.
2. The method of claim 1, comprising adjusting amplifier linearity to fall within said acceptable range.
3. The method of claim 2, wherein adjusting amplifier linearity comprises: determining an acceptable error vector magnitude for the desired data rate; determining a corresponding desired third-order output intercept point value; and adjusting at least one amplifier control signal in response to the desired third-order output intercept point value.
4. The method of claim 1, comprising receiving the intermodulation distortion products through a leakage path.
5. The method of claim 4, wherein measuring the intermodulation distortion products comprises transforming a received signal from the time domain to the frequency domain.
6. The method of claim 1, comprising producing the small number of transmit tones using an IFFT operation.
7. A communications apparatus comprising: an amplifier (121) for performing amplification of a small number of transmit tones, the amplification producing unwanted intermodulation distortion products; means for measuring the intermodulation distortion products to obtain an intermodulation distortion product measurement (503); and means (507) for determining whether amplifier linearity is within an acceptable range based on the intermodulation distortion product measurement and a desired data rate.
8. The apparatus of claim 7, comprising means for adjusting amplifier linearity to fall within said acceptable range.
9. The apparatus of claim 8, wherein said means for adjusting amplifier linearity comprises: means for determining an acceptable error vector magnitude for the desired data rate; means for determining a corresponding desired third-order output

intercept point value; and means for adjusting at least one amplifier control signal in response to the desired third-order output intercept point value.

10. The apparatus of claim 7, comprising a leakage path through which the intermodulation distortion products are received.

11. The apparatus of claim 10, wherein said means for measuring the intermodulation distortion products comprises an FFT block.

12. The apparatus of claim 7, comprising an IFFT block for producing the small number of transmit tones.